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ABSTRACT

Mills College (California) was one of three sites selected to participate in a project designed to apply and use research in elementary teacher education. The project trained student teachers and cooperating teachers to measure academic learning time and active teacher behaviors with instruments developed by recent research on teacher effectiveness. This report of the study begins with a section describing the teacher preparation program of Mills College, which is conducted in cooperation with the Vallejo City Unified School District (VCUSD). The resources and faculty of the school are discussed as well as certification requirements and the sequence of preservice course work and clinical experiences. In the second section, data are provided on the VCUSD, its demographic profile, and its overall educational philosophy and staff development activities. The third section summarizes the results of a situational analysis of the Mills College Program which was conducted prior to designing the research component of the study. The fourth section provides a description of the research design for the study, and implementation of the study to date. (JD)

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A COLLABORATIVE MODEL TO IDENTIFY AND IMPLEMENT APPLICATIONS OF RESEARCH ON EFFECTIVE TEACHING TO PRESERVICE/IN-SERVICE TEACHER EDUCATION

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Paper presented at the American Association of Colleges for Teacher Education Annual Meeting, San Antonio, Texas, February 1-4, 1984.

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Under a grant from the National Institute for Education, the Far West Laboratory for Educational Research and Development selected three regional sites to participate in a project designed to apply and utilize research in elementary teacher education: Applying Research to Teacher Education (ARTE/RUETE). The three sites were: Mills College, Oakland, California; University of Utah, Salt Lake City, Utah; and, The University of Nevada, Reno, Nevada.

The project has been conceptualized as a two-phase activity. Phase One, December, 1982 - November, 1983, is the focus of this paper. Within Phase One were multiple tasks. They included: (1) Establishing a Regional Teacher Education Team; (2) developing a Situational Analysis at each of the three sites; (3) developing a Research Design that sought to determine the effectiveness of various strategies for the utilization of research findings on effective teaching; and (4) to develop a Teacher Education Academy. Each of these tasks will be described as they evolved through Phase One.

This description will begin with a section describing the teacher preparation program of Mills College which is conducted in cooperation with the Vallejo City Unified School District. The second section will describe the Vallejo City School District. The third section will summarize the results of a Situational Analysis of the Mills College Program which was conducted prior to designing the research component of the study. The fourth

section will provide a description of the research design for the study, and implementation of the study to date.

MILLS COLLEGE TEACHER EDUCATION PROGRAM DATA

The elementary (Multiple Subjects) and second (Single Subjects) credential programs at Mills College were redesigned in 1973 to meet the State of California requirements under the Ryan Act. The design was compatible with the Mills tradition of liberal education for women and the values held for a high quality of professional training for educators. Because of its location in an inner city within an urban area which has experienced the severe problems associated with inner city education, Mills teacher credential programs make a conscious and deliberate effort to address the concerns of local schools. This attention is not, however, at the expense of learning skills, knowledge, and techniques which may be applicable to other schools and school systems within our state and nation.

A major goal of the program at Mills is to integrate professional education and training by unifying theory and practice. A second goal is to link the training and experience of elementary and secondary credential candidates in order to unite them in an ongoing professional understanding and purpose. In meeting these goals, the program has eliminated traditional course schedules and, instead, established a program which permits flexibility in the time used for instruction as observation and participation in classroom gradually increase. Elementary and secondary credential candidates

share in many common experiences and instructional activities; however, they also meet separately for instruction in special content areas.

The resources of the College, both academic and physical, are used to take best advantage of all Mills has to offer the teacher in training. The library provides a special orientation for credential students. The Computer Center is open to students with training available at hours convenient to the individual. The Dance, Drama and Physical Education Departments offer special courses or workshops for credential candidates in cooperation with the Education Department. The Math and Science Departments also provide special resources to the candidates.

The faculty in the education department work as a team, coordinating activities and instruction in all program areas. Planning together, planning with students and cooperating teachers. evaluating each aspect of the program, and evaluating each student's performance are key components of the Mills program design.

A college facility in the Sierra Mountains, Dukski, is used once each year as a retreat and four-day training session for credential candidates. Environmental studies, video-training, curriculum, and educational principles are topics of study at the retreat which is planned jointly by students and faculty.

The Center for Global Perspectives, the International Women's Center, and the Upward Bound program, each located at Mills, interact with the credential program providing additional opportunities for learning about teaching from a cross-cultural perspective.

Certification Requirements

Mills College credential programs are approved by the State

Commission on Teacher Credentialing with the most recent program evaluation, in 1983, resulting in approval with commendation for model program elements. In order to gain admission to the Mills College elementary credential program, an applicant must meet the academic requirements comparable to other programs of graduate study. A grade-point average of 2.5 is considered minimum. The student must provide evidence of subject matter competence either through a waiver program or by successfully completing the National Teacher Examination (NTE). The applicant must also take the California Basic Educational Skills Test (CBEST) before admission to the program. The results of the test are used in academic advising if the applicant appears to need additional preparation in a skills or content area.

Undergraduate students, who are seniors at Mills, have the option of applying to the credential program for their fourth year of undergraduate work if prerequisites are met. Approximately 10 to 20 percent of the elementary credential candidates are seniors at Mills. The remaining 80 to 90 percent are fifth year graduate students.

The program provides for a total of 12 semester hours of credit in professional preparation, including 4 semester hours of instruction in the teaching of reading, exclusive of student teaching. This includes 6 semester hours of curriculum and instruction, 2 semester hours of competency-based teacher education in the spring, and a two-semester reading course.

Student teaching at Mills includes field work in the first semester providing for observation and participation in classrooms. The amount of time spent in field work is gradually increased during

the first semester as the student teacher prepares for full-time student teaching. This takes place during the last three weeks of the first semester and for the entire second semester. The student teacher receives 4 semester hours of credit in the first semester and 12 semester hours of credit in the second semester for student teaching.

During the second semester, the student teacher is required to participate in all school activities normally expected of a classroom teacher. Student teaching assignments are full-day assignments at two or more levels of experience. Assignments are selected to provide diversity in socio-economic and ethnic characteristics of pupils, as well as different styles of classroom organization and teaching.

Sequence of Preservice Coursework and Clinical Experiences

Students meet for orientation to the program preceding the first day of classes at Mills. Individual programs are determined through student-faculty consultation and a review of the requirements to be met. Students follow a common pattern with some individual variations.

Elementary credential (Multiple Subject) candidates enroll in Education 300: Curriculum and Instruction in the Elementary School for the equivalent of 6 semester units; Education 373: Directed Teaching in the Elementary School for the equivalent of 4 semester hours. They also enroll in Education 379a: Methods/Materials and Practicum in Teaching Reading for the equivalent of two semester hours of credit. This course continues through second semester as Education 379b for two more semester hours of credit.

The individual multiple-subject candidate plans, with the program

advisers, additional necessary or desired course work which meets an expressed professional interest and does not conflict with the established program plan. For example, some students may also need a course in Social Foundations of Education, Health Education, or may wish to take the coordinated course in Creative Dramatics for Children. In some instances, a student will wish to add a special course in bilingual education or computer science. These may be added with the approval of the Department. The professional preparation program requires 12 semester hours, including the reading course, but not including student teaching.

SCHOOL DISTRICT DATA

The Vallejo City Unified School District (VCUSD) was selected as the cooperating local education agency (LEA) for several important considerations aside from the demographic data. The district has a long-standing commitment to excellence in both preservice and inservice levels of teacher preparation. The VCUSD has a well established Professional Development Center (PDC) that may later incorporate the effective instruction research findings into parts of the PDC regular training cycles. The district has expressed an interest in collaborating regarding the areas of focus for the ARTE/RUETE project for the duration of the project at both the preservice and inservice levels. There has been an ongoing dialog between the project coordinator at Mills and the Director for Staff Development in the VCUSD. The Vallejo district has a long and productive history of collaboration with several local colleges and universities, including UC Berkeley, UC Davis, Dominican College, CSU Sonoma, as well as Mills College.

Demographic Information

The VCUSD is a medium-sized urban district located approximately 30 miles from the Mills College campus, at the northern edge of the San Francisco Bay Area. It is a growing community with both the numbers of minority and low income students increasing regularly. (About 7,000 new housing permits have been issued representing most of the unused land in the city limits). Its student population is approximately 14,200, approximately 55 percent of whom are ethnic minorities. Black students represent the largest single minority (approximately 18 percent). A wide variety of other minority populations are represented in smaller numbers.

The socio-economic status of Vallejo's student population is extremely diverse. For example, recent data indicate that 7 percent of Vallejo's third-grade students come from professional families, 17 percent from semi-professional families, 48 percent from skilled or seimi-skilled families, and 30 percent from unskilled or welfare families.

The percent of students from families receiving Aid to Families with Dependent Children (AFDC) is high throughout the district and recently ranked in the 88th percentile in comparison with other California school districts.

Description of Variance Within District

A wide range of student variability and performance is reflected in standardized test scores. For example, during recent testing of second-graders as part of the California Assessment Program, children from professional families scored at the 80th percentile while children from unskilled or welfare families scored at the 4th percentile.

There are 22 schools in the Vallejo School District: 16 are kindergarten through 6th grade schools, 4 are 7th through 9th grade junior high schools, and 2 are senior high schools. In addition, the district has 8 children's centers and pre-schools, a school for trainable mentally retarded children, a continuation high school and three alternative programs for youngsters in grades 7 through 12 and an adult school. Also, the Community Education Department serves post high school age citizens.

Educational Philosophy and Staff Development

The district has an on-going staff development program that has been developed over seven years. It has had multiple sources of funding. It is currently funded by Chapter I funds, Chapter II funds, and the district's general fund. The district also participates in the Federal Teacher Center Program.

The philosophy exemplified by the VCUSD's committment to staff development is based on the belief that teachers really want to do the best possible job. The Department of Professional Development in the VCUSD has the active involvement of the superintendent, the support of the Governing Board, and is coordinated through the district's instructional Division. The major unifying thrust in the district's staff development is on the improvement of classroom instruction.

A basic focus for the district's staff development is the building of support skills between teachers and principals, and between teachers within the district. While attending PDC instructional cycles, instructional support teams (comprised of teachers and administrators) learn and practice skills and provide leadership

at the school site with follow-up assistance. Also, individual teachers learn and practice skills in the PDC and receive on-site follow-up from the PDC instructional staff.

The designated bargaining agent for the VCUSD teachers is the Vallejo Education Association (VEA) which is associated with the California Teachers Association (CTA). The input from the VEA is through their appointed representatives to the PDC's Steering Committee and Policy Board. The VEA recommends all teacher representatives (which comprise over 50 percent of the board's membership). The Steering Committee/Policy Board makes direct recommendations as to staff development content and process as it occurs in the VCUSD.

In summary, the VCUSD was selected as the cooperating school district because of its long-standing emphasis on the improvement of instruction vis-a-vis the ongoing staff development programs for its teachers and its history of collaborating with local institutions of higher learning. This commitment complements the goals of the ARTE project for applying research findings related to active teaching behaviors. In addition, the long-term collaborative relationship between the director of staff development for the VCUSD and the director of credential programs at the Mills College has facilitated the implementation and continuation of the project.

SUMMARY OF SITUATIONAL ANALYSIS RESULTS

The Situational Analysis provided demographic and conceptual information about the Mills College teacher education program in relation to the Vallejo City Unified School District. The major purpose was to present a broad view of the existing content and process that would inform subsequent development of the application of effective instruction research in both preservice and inservice teacher education.

Briefly, one of the more unusual characteristics of the program at Mills is the opportunity for students to attend classes in block sessions that combine both elementary and secondary credential candidates for some coursework. It should also be noted that this teacher education program is relatively small in terms of the number of full-time faculty and preservice students involved. It may be that techniques for applying effective instruction research have a stronger impact on this small liberal arts population than they would have on a much larger student and faculty group.

The information regarding student teacher, college faculty, and cooperating school district teacher perceptions of their knowledge and application of the research on effective instruction displayed little awareness or use of the effectiveness research relating to academic learning time (ALT) or active teaching behaviors (ATB). This was true both in course work and field experiences, and across all three role groups that were interviewed.

Insights

A review of the data that were collected for the Situational Analysis presented several interesting insights. First and foremost

was the information that student teachers seem to be relatively unaware of current research on effective instruction. Their information comes from casual conversation with the cooperating teachers, who themselves receive information fairly far removed from the primary sources of the research. Implications for the research design from this initial finding suggested that a strategy of building from awareness, knowledge, application, and evaluation would serve to develop the student teachers' ability to apply research findings to their classrooms. This would probably be enhanced if the student teachers were trained in specific observation techniques that would allow them to become more familiar with data gathering techniques used to measure change.

A second interesting insight gathered from the situational analysis is the influence by the cooperating teachers on the student teacher's experience. The cooperating teacher seems to serve as the "gatekeeper" in terms of what processes and content are emphasized or excluded in the classroom. It was interesting to observe the impact of requiring the assessment of certain teaching behaviors in the classroom mileu.

As both Mills College and the VCUSD are committed to increasing teacher effectiveness at both the preservice and inservice levels, the focus of the ARTE/RUETE project on effective instruction seemed most appropriate for a collaborative project via the FWLERD interactive model. Upon review of existing course syllabi as well as topics included in student teacher evaluations by experienced teachers that teaching behaviors, and the ability to assess student learning were of concern vis-a-vis the development of beginning teachers.

DESCRIPTION OF THE RESEARCH DESIGN AND PROCEDURES

The RUETE study is designed to develop, implement, and evaluate techniques for applying research findings on effective instruction to the preservice teacher preparation of elementary school teachers. The need for elementary teachers to understand and use instructional practices derived from recent teacher effectiveness research has been documented by Good (1983) and Stallings (1983). Stallings (1983), specifically states that "In order to continue to learn about effective instruction, the preservice teacher needs the opportunity to develop research skills. The teacher preparation courses should provide opportunities for students to develop questions which can be examined through naturalistic recordings, structured observations, criterion tests, surveys, or interviews.". The purpose of the project is to study the application of research on effective instruction to the preparation of elementary school teachers.

One area of recent research relating to effective instruction was reported by Fisher et al, (1978; 1980; and 1981) indicates a positive relationship between Academic Learning Time (ALT) and student

achievement. These studies define ALT as a ratio of the time allocated for academic learning by the teacher, the time during which the student is actually engaged in learning, and the amount of time the student experiences a high success rate in the learning task. All three of the above criteria are elements of academic learning time. Fisher's study suggests that the measurement of ALT is one of the most visable indicators of learning while it is taking place. These findings also link ALT to specific teacher behaviors such as selection of activities, presentation of learning tasks, and feedback to students (Fisher, et al; 1981).

In addition, Good (1983) has identified specific teaching behaviors which foster student learning in elementary school mathematics. He labeled these behaviors Active Teaching Behaviors (ATB). Two basic features of active teaching behaviors are teacher direction of learning and a high level of teacher-student interaction. Other attributes of more effective teachers included the clear presentation of information, allowing students to initiate more academic questions, and creating a somewhat relaxed learning environment with comparatively little praise or criticism. His findings also indicated that more effective teachers expressed higher achievement expectations for their students.

This project trained student teachers and cooperating teachers to measure academic learning time and active teaching behaviors in their classrooms. It was expected that a heightened knowledge of elements identified by research as having a positive impact on teaching and learning would increase ALT and/or ATB. The ability to measure ALT and ATB become in effect the "research skills" for the

student teachers and cooperating teachers participating in this project. The strategies devised by the student teachers and cooperating teachers to increase the ratio of ALT and the inclusion of active teaching behaviors become the "research questions" mentioned earlier vis-a-vis Stallings (1983). It seemed reasonable that as the student teachers and their cooperating teachers were able to make distinctions between behaviors that have positive influences on student success and those that do not, they would include more of the former in their repertoires. This project therefore proposed a model that promotes, and in fact depends upon, the mutual openess of both the student teacher and cooperating teacher to feedback related to their instructional effectiveness.

The teaching of math in the elementary classrooms was the area in which the levels of ALT and the active teaching behaviors were assessed. Math was chosen for three specific reasons. First math is considered a "basic skill" and mandated to be taught to all pupils by all teachers at the elementary level. Second, the levels of student success could be easily determined, as most responses are clearly either correct or incorrect. Third, the research cited earlier (by both Fisher and Good) was based on math as a content area.

The project combined student teachers and their cooperating teachers as colleagues in training sessions related to the measurement of ALT and ATB, (details of the training appear later in this paper). This project was intended to promote feedback between the student teacher and the cooperating teacher as they attempted to apply the new-found distinctions to their assessments and planning of classroom instruction. The combined training also provided a common

lexicon for their discussions relating to classroom practice, and promote reinforcement for effective instruction practices within the classroom. This project was the first time Mills College has undertaken the simultaneous involvement of preservice and in-service teachers on research-based topics.

If, in fact, developing student teacher and cooperating teacher skill and knowledge of classroom instruction research strategies assists in the development and use of effective instructional behaviors, the model would be incorporated into the Mills College teacher preparation programs so as to enhance the quality of teachers prepared by Mills. The findings of this project have become the initial topics of the teacher Education Academy convened by Mills. The project findings will also contribute to the literature on teacher preparation related to the question "does knowledge and feedback help change teacher behavior?". In addition, the model of simultaneously training preservice and inservice teachers in a research-based set of techniques in such a way that they provide feedback to each other as colleagues has begun to generate findings related to the student teacher - cooperating teacher relationship, including the "supervision" of the student teacher by the cooperating teacher.

Hypotheses For Phase One

1. Student teachers and cooperating teachers who are trained to assess ALT and ATB will apply the knowledge to improve their instructional effectiveness in math.
2. Student teachers and cooperating teachers who are trained to assess ALT and ATB will increase the ratio of ALT in their math

lessons as measured two months after the training session.

3. Increased knowledge of research related to ALT and ATB will change the supervision of student teachers by their cooperating teachers.

Methodology

The major components of this section include:

1. Sample selection
2. Training/intervention
3. Observation and instrumentation
4. Time-line of design procedures

1. Sample selection

The sample consisted of five preservice elementary credential candidates in the Mills College teacher preparation program and five experienced cooperating teachers from the Vallejo City Unified School District. The Vallejo cooperating teachers were part of the preferred pool of teachers utilized consistently by the Mills Teacher preparation program. All sample members were volunteers. The five cooperating teachers volunteered and were accepted by their building principal and the teacher education faculty at Mills College. These cooperating teachers and the five student teachers placed in their classrooms were the subjects of Phase One. The method of placement of the student teachers is the way student teachers are usually placed as part of the Mills program. In summary, there were five student teachers - cooperating teacher pairs in the sample.

2. Training/Intervention

Observations of the student teachers and cooperating teachers

were made to gather baseline information regarding ALT and active teaching behaviors. Subsequently, a three-day training whose purpose was to inform the student teachers and cooperating teachers on the literature related to effective instruction, specifically ALT and ATB occured. The training was designed to develop the participants' ability to measure ALT and ATB and to give and receive feedback related to instruction effectiveness in the teaching of math.

During the training the student teachers and cooperating teachers were presented information regarding the use of ALT and the active teaching behaviors as indicators of effective instruction. The student teachers and cooperating teachers were also trained to use structured observation instruments developed at the Far West Laboratory to measure ALT and active teaching behaviors. They had ample practice and instruction and developed a reasonable level of reliability.

In addition to three-day training, the semester-long student teaching experience became an important element of the intervention process. As part of the student teaching experience the student teachers were required to turn in written summaries of their teaching on a weekly basis. The summaries included amount of time spent teaching math, the goals and objectives for each math leasson taught, and assessments related to ALT and ATB.

Both the student teachers and cooperating teachers kept records regarding the amounts of ALT and ATB in the math lessons. There were weekly conferences between the student teacher and

cooperating teacher for feedback on the assessments using ALT and ATB observation forms as a basis for discussion. The Mills student teacher supervisior and/or a project research assistant conducted bi-weekly three-way conferences with the student teacher and co-operating teacher focusing on effective instruction. The unique feature of these conferences was the tight focus on the applications of effective instruction research to classroom practice.

In summary, the training/intervention consisted of the three-day training session providing information and training focused upon ALT and ATB as specific measures of effective instruction. The semester-long student teaching experience was also viewed as a major factor in facilitating the improvement of instruction for both the student teacher and the cooperating teacher.

3. Observation/Instrumentation

The observation and assessment procedures focused on the participants' knowledge and implementation of the research findings on effective instruction as defined by this project, and the levels of use vis-a-vis active teaching behaviors and the ratio of ALT. The assessments included the following:

a. The student teachers (ST) and cooperating teachers (CT) were asked to write a paragraph about their knowledge of the ALT and ATB research findings and applications of the findings to their classroom teaching practices prior to the intervention. Another paragraph was written after the conclusion of Phase I of the project, to inform the design for Phase Two.

b. Pre and post observations of the student teacher and co-

operating teacher to assess levels of ALT and application of active teaching behaviors were conducted by the research assistants.

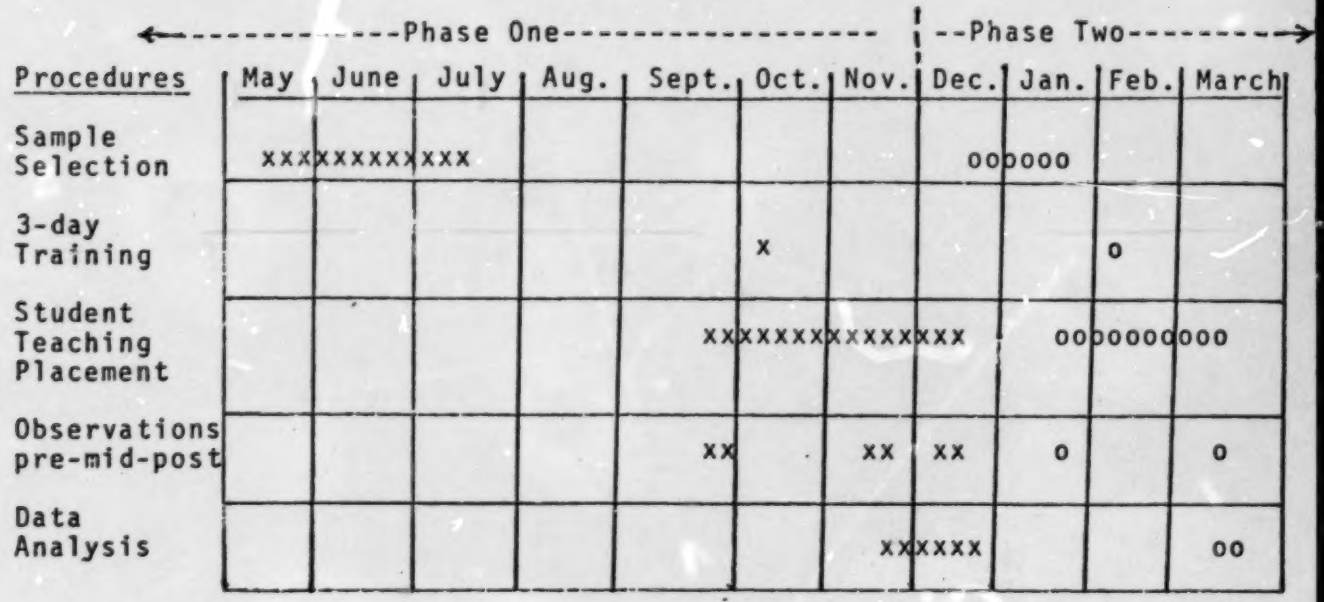
c. Cooperating teachers' and student teachers' assessments of the usefulness of ALT and ATB frameworks for superising student teachers.

As mentioned in item "a" above, the STs and CTs were asked to cite sources of their information and knowledge about ALT and ATB in each of their paragraphs. They were also asked to describe their present classroom application of the knowledge.

As mentioned in item "b" above, the pre and post observations utilized those instruments developed by Far West Laboratory to assess ALT and ATB. These instruments were included in the training materials for the STs and CTs.

Data related to cooperating teacher and student teacher perceptions of the usefulness of utilizing ALT and ATB for supervision of student teachers as mentioned in "c" above, were also collected.

Time Line of Procedures (Interventions)



x indicates dates for first intervention group (CTs and STs).

o indicates dates for second intervention group (same CTs but a new group of STs).

Data Analysis

As this research design falls somewhere between descriptive and quasi-experimental, the collection and analysis of data are in keeping with those parameters. First, as mentioned earlier, there was a comparison of student teacher and cooperating teacher knowledge related to ALT and ATB pre vs post intervention. These comparisons were based upon the paragraphs written by the STs and CTs.

For both sets of participants, there was a comparison of application (level of use) of active teaching behaviors and levels of ALT in pre vs post observations performed by the project research assistants. The written assessments of the participants' perceptions of the usefulness of ALT and ATB as facilitating the super-

vision of student teachers were collected.

A second area where data was collected was the impact of the collaborative/colleague nature of the intervention between the student teacher and cooperating teacher. Sources of information for this aspect includes student teacher journals, logs and lesson planning sheets. Written notes of student teacher - cooperating conferences, as well as the conferences that include the Mills student teacher supervisor and/or research assistant have provided additional information for this assessment.

Information subsequent to the data collection and analysis provided the basis for the formation and initial meetings of the Mills College Teacher Education Academy as well as the design for Phase Two.

RESULTS/DISCUSSION

Student Teacher knowledge of the research on effective instruction, as described in the situational analysis, was minimal at the start of the ARTE/RUETE study. In general both student teachers and the cooperating teachers did not have a sense of practical applications of research, although the cooperating teachers did have a sense of spin-offs of educational research being applied to classroom teaching vis-a-vis Madeline Hunter. By the conclusion of Phase One, both the cooperating teachers and student teachers were able to discuss the benefits of their discussions of classroom activities vis-a-vis ALT and ATB assessments. The cooperating teachers suggested, and designed, a training for a new set of student teachers being assigned to their classrooms. The training will mirror

the initial training, but will be done by the cooperating teachers, and will utilize video tapes of their classrooms for the ALT and ATB instrumentation training.

Both student teachers and cooperating teacher pairs reported that the ability to make distinctions among the active teaching behaviors helped them give each other feedback, and subsequently to improve their instructional effectiveness. They went on to mention the improved communication in supervisory meetings through the common lexicon provided by the ALT and ATB background readings and training.

An interesting outcome of the interviews at the end of Phase One was that the cooperating teachers unanimously identified academic learning time (ALT) assessments as being most useful for helping them become more effective in their teaching, while the student teachers unanimously mentioned the active teaching behaviors (ATB) feedback as being of most use.

Perhaps the most interesting and exciting development coming out of Phase One, was the enthusiasm of the cooperating teachers to become what has been identified as "reflective practitioners" (Schön, 1983). That is, teachers who reflect on their own actions, in this case looking at the utilization of educational research to classroom practice. Thomas Russell (1983) has outlined potential benefits for developing the "reflective practitioner" side of teachers vis-a-vis supervision.

A second finding in the interviews with student teachers is the spirit and intensity of the student teacher interest in developing classroom questions for inquiring into their teaching.

A third area of insight was the interaction of student teachers and cooperating teachers who have been taught to apply the same active teaching behaviors. This potential for "coaching" may reinforce the the levels of skill and knowledge of both the cooperating and student teachers.

A fourth insight had to do with encouraging the teacher education faculty to include more research on effective instruction in their course work. This may take the form of more assignments related to applying the research to classroom practice while student teaching.

As a result of Phase One findings the Vallejo School District has shown interest in possibly including the training of beginning teachers in assessing ALT and ATB as part of the district's staff development process for new teachers. This comes in part from the district's interest in improving the quality of classroom practice through "support teams" combined with the cooperating teacher's enthusiasm for having utilized the assessments to improve instruction in actual classrooms within the district.

The interest by both cooperating teachers and student teachers for learning more about their instructional effectiveness has helped shape the directions for Phase Two of the ARTE/RUETE project. In the next phase the thrust will be to follow-up these teachers looking at stability of effects, and to utilize the Teacher Education Academy diminsion of the project to collaborate with other teacher training institutions and local school districts toward more systematic applications of research to improving teaching.

REFERENCES

Fisher, C., Berliner, D., Filby, N., Marliave, R., Cahen, L., & Dishaw, M. Teaching Behaviors, Academic Learning Time and Student Achievement: An Overview. In C. Denham & A. Lieberman (eds.), Time to Learn. Washington, D.C.: National Institute of Education, 1980.

Fisher, C., Berliner, D., Filby, N., Marliave, R., Cahen, L., & Dishaw, M. "Teaching Behaviors, Academic Learning Time and Student Achievement: An Overview" The Journal of Classroom Interaction. Vol. 17, No. 1, Winter, 1981.

Fisher, C., Filby, N., Marliave, R., Cahen, L., Dishaw, M. Teaching Behaviors, Academic Learning Time and Student Achievement: Final report of Phase III-B, Beginning Teacher Evaluation Study, San Francisco, CA: Far West Laboratory for Educational Research, 1978.

Good, T., Research on Classroom Teaching. In L. Shulman & G. Sykes (eds.). Handbook for Teaching and Policy Implication. New York: Longman, Inc., 1983.

Hall, G., Loucks, S. "Teacher Concerns as a Basis for Facilitating and Personalizing Staff Development" Teachers College Record. Vol. 80, No. 1, Sept., 1978.

Hall, G., Loucks, S., Rutherford, W., Newlove, B. "Levels of Use of the Innovation: A Framework for Analyzing Innovation Adoption". Journal of Teacher Education. Vol. 26, No. 1, Spring, 1975.

Russell, T. "The Importance and the Challenge of Reflection-In-Action by Teachers". Invited paper presented at the "Research in Teacher Education: Current Problems and Future Prospects" CATE/CSTE Invitational Conference, Vancouver, B.C. 1983.

Schön, D. "The Reflective Practitioner". New York: Basic Books, 1983.

Stallings, J. "Implications from the Research on Teaching for Teacher Preparation". Invited paper presented at a workshop on Implications from Research on Teaching for Preservice Teacher Education, Detroit, 1983.

Tikunoff, W. & Mergenoller, J. Inquiry as a Means to Professional Growth: The Teacher as Researcher. In G. A. Griffin (ed.) Staff Development: Eighty-Second Yearbook of the National Society for the Study of Education (Part II). Chicago: University of Chicago Press, 1983.